

Daily Planet Redesign: eZ publish Web Content Management Implementation

eZ publish Annual Users Conference 2006

Skien, Norway

June 22, 2006

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Jet Propulsion Laboratory
California Institute of Technology



Presentation Overview

- ❑ Daily Planet Case Study – Issues and Goals
- ❑ Development
- ❑ Technical Architecture
- ❑ Outcome
- ❑ Screen Shots
- ❑ Next eZ publish Job(s)



Daily Planet Issues (Circa 2003)

Site Description: an internal news site that acts as a communication vehicle for a large volume of content

Status before Redesign:

- Confusion about site goals
- Staff not trained as professional HTML production folks
- High maintenance time required – manual publication
- No site information architecture
- No archives for long term storage
- No retrieval mechanism (search)



Daily Planet Goals

Objectives for Site Redesign:

- Clean visual design
- Facilitation of publication processes
- More efficient maintenance mode
- Automated publishing to internal portal
- Better navigation through improved site IA
- Archiving and retrieval functionality
- Back to basics on fundamental business goals



Daily Planet: Challenges To Address

- ❑ No turn-key institutional CM service available
- ❑ No appropriate server environment for software
- ❑ Minimal budget – open source
- ❑ No permanent Daily Planet IT staff
- ❑ No stable development resources available
- ❑ Functionality required beyond current technical solutions at lab



Adding Business Value Using CM

- ❑ Implemented a new database-driven open source CMS for Daily Planet, along with new information architecture and graphic design

- ❑ **Daily Planet Firsts:**
 - LAMP stack in institutional web-hosting environment
 - CMS by institutional IT Application Hosting Service
 - Caching engine for internal JPL site



A Refresher...What is Content Management?

- ❑ A controlled distributed authoring environment for the creation and publishing of content to a variety of end venues
- ❑ Enables automation of various aspects of content creation, its presentation and delivery
- ❑ “Write once, publish many”
 - Leverages the time investment of the content author
 - Separation of content and display (formats)

*Key Point: CM is a **process** not a software package*



Development – Business Requirements

- ❑ Do them!
- ❑ Everything is based on requirements – this is the least expensive part of the process, do it thoroughly
- ❑ Determined development and software selection
 - Story life cycle and publication flow
- ❑ Don't begin coding without them
- ❑ But... do expect them to change after project has begun

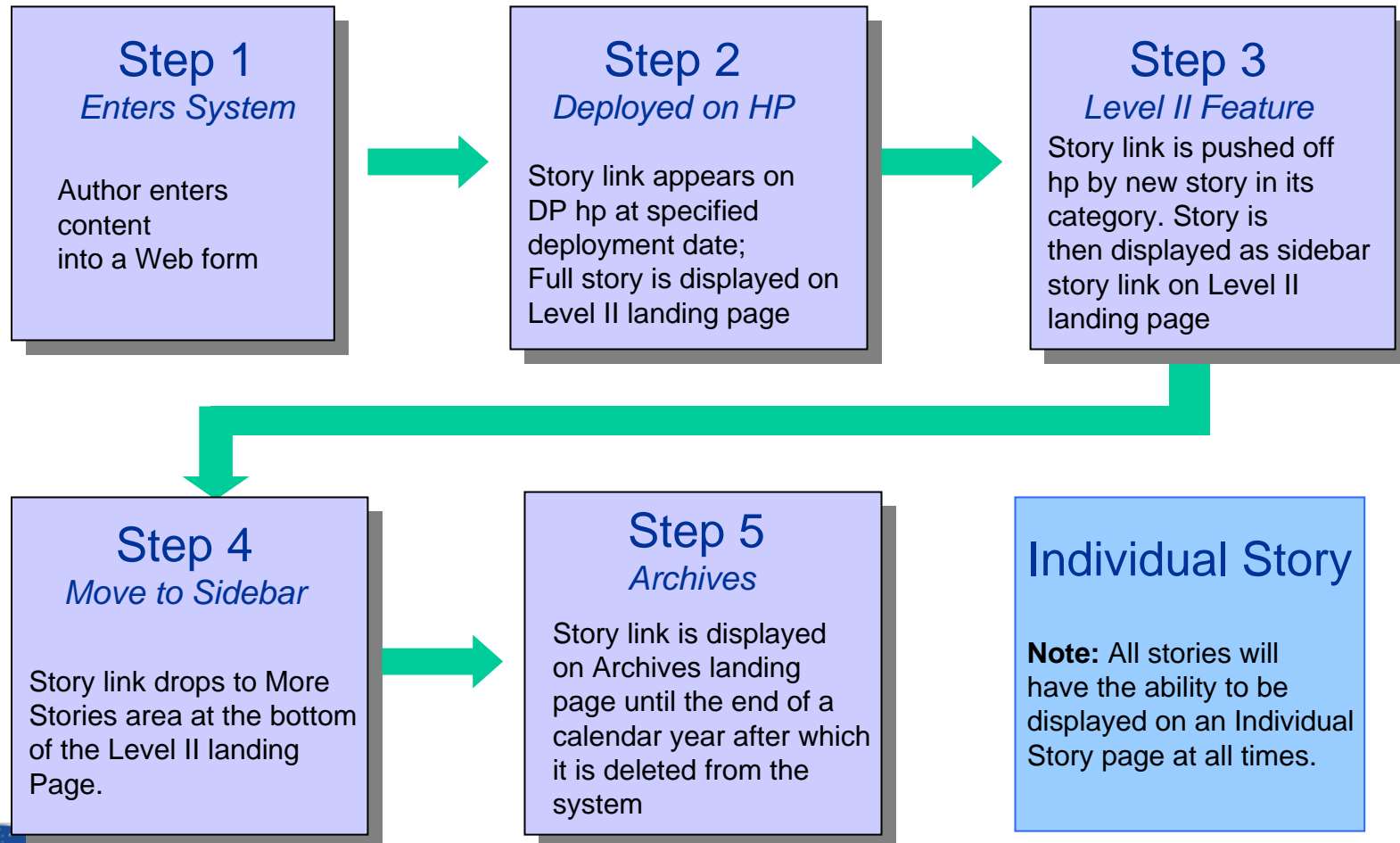


DP Business Requirements Fragment

Site Requirements				
1.0	Daily Planet Home Page			
1.1	General Requirements for HP			
	1.1.2	Five feature stories plus a Today's Feature Story will be displayed at any one time		
	1.1.3	The five feature stories may come from any category		
	1.1.4	There may be more than one feature story from any one category at any time displayed on the Home Page		
1.2	Today's Feature Story Element			
	1.2.1	Each feature must have a headline		
	1.2.2	The headline should be approximately 2 lines long		
	1.2.3	Each feature must have a publish date and time stamp		
	1.2.4	The date field must be in a standardized form (ISO)		
	1.2.5	Each feature must have a sentence description		
	1.2.6	The sentence description should be approx 60 words		
	1.2.7	Each feature must have a link to the full story to a lower level landing page or to an individual article		
	1.2.8	Each feature must have a picture - there may also be generic category icons ("Breaking News") instead of a picture		
	1.2.9	The feature story can be from any of the 6 general content categories		
	1.2.10	The feature story will automatically expire and be demoted to a level 2 sidebar after its expiration date		
	1.2.11	The feature story will carry some taxonomic keywords to enable re-use and site search		
1.3	Feature Story Elements for Content Categories: Events, News, People, Get Involved, Fun Stuff, General Interest			
	1.3.1	Feature stories may be assigned placement into slotted areas by the editor		
	1.3.2	Each feature must have a headline		
	1.3.3	The headline should be approximately 2 lines long		
	1.3.4	Each feature must have a publish date and time stamp		
	1.3.5	The date field must be in a standardized form (ISO)		
	1.3.6	Each feature must have a sentence description		
	1.3.7	The sentence description should be approx 30 words		

Story Life Cycle for Daily Planet

Flow for Feature Article



New Information Architecture

- ❑ Home page
- ❑ Sub Sections
 - Events, News, People, Get Involved, General Interest, Fun Stuff
- ❑ Widgets
 - Link to external pages
 - Link to Multimedia section
 - Can change daily, library of images
- ❑ Archives

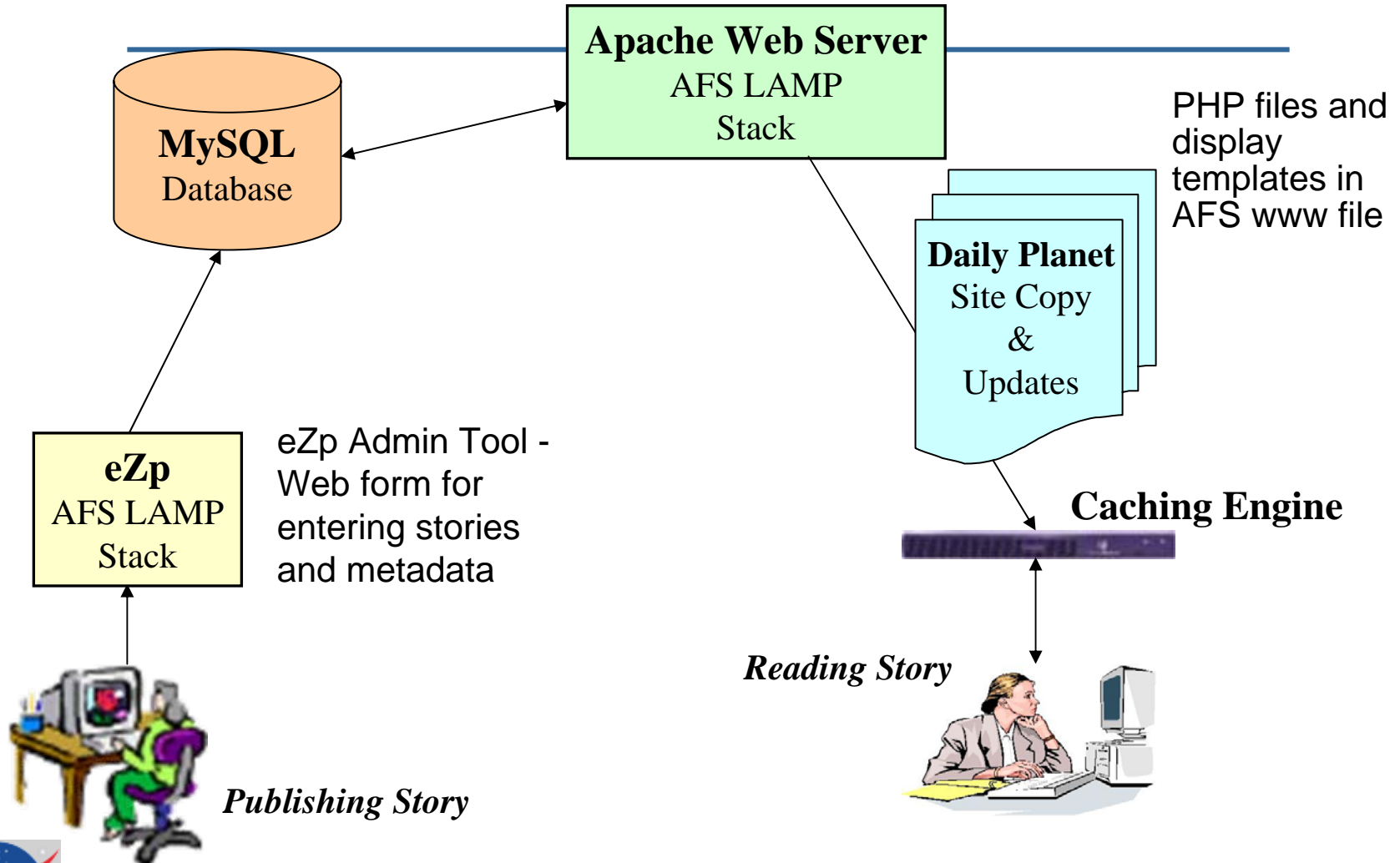


Technical Architecture Components

- ❑ An administrative system: to enter and manage content (eZpublish)
- ❑ A MySQL database: to hold the story content and other information
- ❑ A JPL AFS Directory: to serve dynamic look and feel templates (PHP & database query code)
- ❑ A Caching Server: to improve site performance



Daily Planet: Technical Architecture Diagram



Technical Implementation Details

- ❑ Custom input templates (three content types)
- ❑ Custom reporting tool
- ❑ Custom preview
- ❑ Caching
- ❑ Approached as *application* development using software development cycle, not as *static website* development
 - Tech specs & requirements
 - CVS
 - Testing (unit, functional, load, performance, browser)



Site In Progress of Development

[INSIDE JPL](#) [JPL RULES](#) [NBS](#) [JPL HOME](#) [CALTECH](#) [NASA](#)

Daily Planet

JPL
Jet Propulsion Laboratory
California Institute of Technology

September 29, 2003


- Events
- News
- People
- Get Involved
- General Interest
- Fun Stuff
- Archive

State of the Lab
JPL Weather
Universe
Classifieds
This Week
JPL in the News
Tech Today
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Today's Feature



Purchasing class on Wednesday

(posted April 11)

"Purchasing at JPL," an interactive course, will be held Wednesday, May 7, at the Embassy Suites in Arcadia. The course will explore the entire acquisition process from start to finish. Anyone who purchases commodities or services using the services of the Acquisition Division should plan on attending.

[FULL STORY](#)

Get Involved

JPL team to join cancer fight

(posted March 22)

The 10th annual Revlon Run/Walk for Women, a 5k event at the L.A. Memorial Coliseum, will be held Saturday, May 10. JPL's third annual team is sponsored by JPL's Advisory Council for Women (ACW). [FULL STORY](#)

Events

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FPO
Widget
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15

Training the Customer

- ❑ Conducted three training sessions with client staff
 - Customer worked with the actual system
- ❑ Crucial for client acceptance and adoption of tool
- ❑ Increased comfort level
- ❑ Provide handholding and technical support in the early days of roll out



Daily Planet Today



February 16, 2006

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[Events](#)

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[General Interest](#)

[Fun Stuff](#)

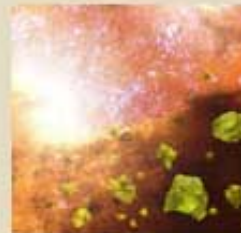
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Today's Feature



Spitzer finds violent galaxies smothered in 'crushed glass'

(posted February 15, 2006)

The Spitzer Space Telescope has observed a rare population of colliding galaxies whose entangled hearts are wrapped in tiny crystals resembling crushed glass.

[FULL STORY](#)

Events

DARPA "Grand Challenge" discussed Thursday

(posted February 7, 2006)

Join Dr. Richard Murray, professor of Control and Dynamical Systems at Caltech, on Thursday, Feb. 16, from 4:45 to 6 p.m. in von Karman Auditorium.

[FULL STORY](#)

Fun Stuff

Many family events offered at Caltech

(posted February 14, 2006)

Events just for families continue this month at Caltech as part of the newly established "Programs for School Groups and



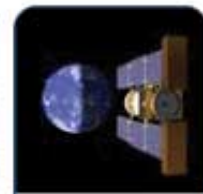
[Historical Photo](#)



[Inside NASA](#)



[JPL Podcasts](#)



[Multimedia](#)

General Interest

Lab passes ISO audit

(posted February 15, 2006)

The ISO triennial registration audit, conducted Feb. 7-10, resulted in the recommendation of the National Quality Assurance audit team for "continued registration to the 9001:2000 Standard."

Sub Section Page

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The Defense Advanced Research Projects Agency (DARPA) created the "Grand Challenge" as a way to meet a congressional mandate to supply the armed

forces with autonomous vehicles by the year 2015. The first of the DARPA-sponsored series of robotic races took place on March 13, 2004.

A veteran of last year's race, Team Caltech participated in the second DARPA Grand Challenge on Oct. 8, 2005, which was held in Primm, Nevada. After completing approximately 8 miles of autonomous driving, Alice--a 2005 Ford E-350 van modified for off-road use--experienced some Global Positioning System errors after passing under a power line that caused her to receive false data about the actual location of the "corridor" that defined the route. Though their entry did not finish the race, hardworking Team Caltech students got immense value out of the process of building a "brain on wheels."

Murray will discuss the challenges and satisfactions of doing

Feature Stories

Interstellar dust is Feb. 21 topic

(posted February 10, 2006)

Join Dr. Nicolas Altobelli of the Planetary Sciences and Life Detection Section for "Interstellar Dust Within the Solar System: The In-situ Detection Point of View" on Tuesday, Feb. 21, at noon in the 167 conference room.

[FULL STORY](#)

Technology innovations discussed Feb. 22

(posted February 15, 2006)

The Innovative Technology Assets Management Office is hosting the next brown bag lecture in its series of entrepreneurial endeavors. Join Stephanie Yanchinski, executive director of Pasadena Entretec, on Wednesday, Feb. 22, at noon in Building 180-101.

Multimedia Page

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Multimedia

Each of the following video features requires the RealPlayer plugin. It is free, and available for [Windows](#), [Mac](#), and [Linux/Unix](#) from [Real.com](#).

2006



State of the Lab

(posted February 7, 2006)

Dr. Charles Elachi held a state-of-the Lab meeting on Feb. 7 to discuss recent accomplishments, upcoming activities, institutional topics, and the FY 2007 NASA budget.

[WATCH VIDEO](#)

Two Years on Mars

(posted February 1, 2006)

A celebration of MER's two-year anniversary on Mars

[WATCH VIDEO](#)

Center for Life Detection Seminar

(posted February 1, 2006)

Other Years

- [2006](#)
- [2005](#)
- [2004](#)
- [2003](#)
- [2002](#)
- [2001](#)

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Archive

Events

PDMS upgrade lecture on Monday
December 15, 2005

Invention Challenge on Friday
December 2, 2005

"Managing Your Career" presented Wednesday
November 30, 2005

"Drowning in Details" Friday
November 21, 2005

Titan and Mars briefings from European Space
Agency
November 29, 2005

[MORE EVENTS ARCHIVE ARTICLES](#)

People

Meet the first woman to drive on Mars!
December 8, 2005

Cassini-Huygens wins space award
November 17, 2005

Caltech chemist Grubbs wins Nobel Prize
October 5, 2005

[Environmental Stewardship Awards presented](#)

News

Mars Express radar instrument reveals Martian
subsurface
December 5, 2005

Crab nebula seen in great detail
December 2, 2005

America and Europe partner to study Titan and
Mars
November 30, 2005

Rover helps reveal possible secrets of Martian life
November 30, 2005

Cassini images the plumes of Saturn's moon
Enceladus
November 28, 2005

[MORE NEWS ARCHIVE ARTICLES](#)

Get Involved

United Way campaign extended
November 14, 2005

Blood donations help many
October 28, 2005

Museum offers "Festival of Flight" Saturday and
Sunday
October 11, 2005

DP Channel for Internal Portal

Search JPL

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Thursday, February 16, 2006

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My Page

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Work Center

Projects

Organizations

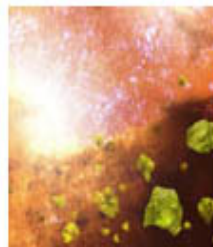
Content

Layout

My Bookmarks

XML Implementation of Dublin Core
JPL Online Classifieds
Federal Enterprise Architecture Program
NASA NODIS
Semantic Search Presentation
W3C Semantic Web Specs
SWIG Docushare Library
CMSV Search Tool
Project Search Presentation
Cassini Seamark Demo
SIM Seamark Demo
JIMO Seamark Demo
NASA Taxonomy
MER Seamark Test
NASA Trending team
Seamark Admin Console
MSIM Seamark Query

Daily Planet



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Labwide Announcements

- Due to Popular Demand, Records Management Has Added 4 New Training Sessions to the HR/ET Schedule
- JPLers Appear in Shakespeare's "As You Like It" at Caltech's Ramo Auditorium, February 17
- Electronic Resources Available via the BEACON Website
- Moving Ahead with Meeting Maker 8.5
- Manage Your Records (Don't Let Them Manage You!) Training Classes
- FY 2006 Ethics Training Starting February 13
- BEACON OneSearch for Journal Articles



Status and Alerts

Safety

**HAZARD REPORTING
HOTLINE: 3-6483**

Click here for additional hazard reporting information



- Occupational Safety
- Systems Safety
- Environmental Affairs



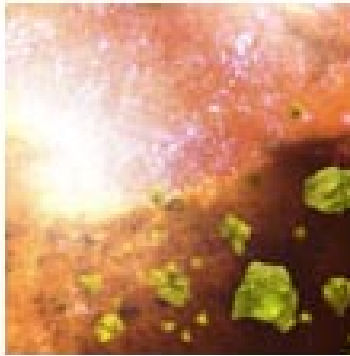
IF IT'S NOT SAFE, SAY SO!
Report any safety concerns to NASA

Quick Links

- BOSS
- Cafeteria Menus
- Conference Rooms - Public
- Export Compliance (ITAR)
- Inside NASA
- JPL Webmail
- Maps - JPL Interactive

DP Channel Close Up

Daily Planet



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What Contributed to Success

- ❑ Cross-organizational team (ICIS, KM, AFS, Web, DTA)
- ❑ Cross-organizational cooperation
- ❑ Ability to bring new technology on Lab to solve problem
- ❑ Willingness to adjust course as requirements shifted
 - Schedule was rewritten several times due to infrastructure development
- ❑ Regular and open communication with client



Final Outcomes

Customer is happy!

- Automated publishing – date and time
- Ability to see future pages on any given date
- Easy entry – no need to know HTML
- Information architecture supports easy navigation
- Customer feels ownership of site contents
- Better business focus
- System is stable!



On the Horizon

The Situation

- ❑ Three sites that share a common audience, content and communication goals
- ❑ CIO web site, Institutional IT website, Division 37 website
- ❑ Proposed eZ publish CM environment to move content between the sites as needed



Tusen takk !

Jayne.E.Dutra@jpl.nasa.gov



Back Up Slides



Overall Development Cycle

❑ Process Overview:

- Business Requirements and Tool Selection
- Technical Implementation and infrastructure development
- Testing
- Training
- Launch
- Ongoing Maintenance

Observed standard ICIS software development life cycle for due diligence



Development Schedule

Time Period (FY)	Items Accomplished
June – July 03	<ul style="list-style-type: none">❑ Business Requirements set❑ Software requirements and selection
August – mid Sept 03	Initial coding and visual design
mid Sept – mid Oct 04	Software testing and fixes
Nov – mid Jan 04	<ul style="list-style-type: none">❑ Infrastructure development – servers selected and procured❑ Caching engine installed
mid Jan – Feb 04	<ul style="list-style-type: none">❑ Full system testing❑ Customer training
March 04	Roll out



Web Caching Engine

- Caches entire site
- Automatically updated
- Reduces latency to the user
- Improves uptime
- Reduces load on back end
- Secure box



NetApp NetCache

